

What is claimed is:

1. A monitor system that monitors a projection apparatus having projection section for projecting an image,
wherein an actual projected image projected by said
5 projection section is loaded into said projection section so that an error in said projection section can be detected on the basis of the loaded actual projected image.
2. A monitor system that monitors a projection apparatus
10 having projection section for projecting an image, the system comprising image loading section for loading an actual projected image projected by said projection section, error detection section for detecting errors in said projection
15 section on the basis of the actual projected image loaded into said image loading section, and error notification section for carrying out a predetermined notification when said error detection section detects an error, and
wherein said error detection section detects errors in
said projection section on the basis of an original projected
20 image to be projected by said projection section and the actual projected image loaded into said image loading section.
3. The monitor system for a projection apparatus according to claim 2, wherein a monitor center that monitors said
25 projection apparatus and said projection apparatus are connected together so as to communicate with each other,

in addition to said projection section, said projection apparatus has said image loading section, said error detection section, and said error notification section, and

when said error detection section detects an error, said
5 error notification section carries out predetermined notification to notify said monitor center of the error.

4. The monitor system for a projection apparatus according to claim 2 or 3, wherein said image loading section is a
10 one-dimensional line sensor.

5. The monitor system for a projection apparatus according to claim 4, wherein said one-dimensional line sensor is adapted to obtain a horizontal line image from said actual projected
15 image.

6. The monitor system for a projection apparatus according to claim 2 or 3, wherein said image loading section is a two-dimensional area sensor.

20

7. The monitor system for a projection apparatus according to any of claims 2 to 6, wherein said predetermined notification includes error information on an error in said projection section and an event log for said projection apparatus.

25

8. The monitor system for a projection apparatus according to any of claims 2 to 7, wherein said error detection section

compares said original projected image with said actual projected image to detect an error in said projection section on the basis of a match or difference between the original projected image and the actual projected image.

5

9. The monitor system for a projection apparatus according to claim 8, wherein said original projected image comprises original projected images in a plurality of different colors,

10 said actual projected image is obtained by synthesizing actual projected images in said plurality of colors projected on the basis of said original projected images in said plurality of colors,

15 said image loading section is monochrome sensors provided in association with said actual projected images in said plurality of colors so that said actual projected images in said plurality of colors can be loaded into the respective monochrome sensors, and

20 said error detection section compares, for corresponding projected images in each color, said original projected image with an actual projected image projected on the basis of the original projected image and then loaded into a corresponding one of said monochrome sensors at the same or at almost the same time as when the actual projected image is projected, to detect a difference between the original projected image
25 and the actual projected image to detect an error in said projection section on the basis of the detected difference.

10. The monitor system for a projection apparatus according to claim 8, wherein said original projected image comprises original projected images in a plurality of different colors,

5 said actual projected image is obtained by synthesizing actual projected images in said plurality of colors projected on the basis of said original projected images in said plurality of colors,

 said image loading section is monochrome sensors provided in association with said actual projected images in said
10 plurality of colors so that said actual projected images in said plurality of colors can be loaded into the respective monochrome sensors, and

 said error detection section compares, for corresponding projected images in each color, a projected image signal
15 inputted to said projection section and which can construct said original projected images with a loaded image signal outputted by a corresponding one of said monochrome sensors and which can construct an actual projected image projected on the basis of the original projected image and then loaded
20 into said monochrome sensor at the same or almost the same time as when the actual projected image is projected, to detect a difference between the original projected image and the actual projected image to detect an error in said projection section on the basis of the detected difference.

25

11. The monitor system for a projection apparatus according to either claim 9 or 10, wherein said projection section

includes image display section for displaying an image on the basis of the projected image signal or projected image information and a light source that irradiates the image displayed by said image display section with light to project
5 the image on a screen, and

said error detection section determines that an error is occurring in said light source when a predetermined threshold is exceeded for said corresponding projected images in one of the plurality of colors.

10

12. The monitor system for a projection apparatus according to any of claims 2 to 11, wherein said error detection section calculates a difference between a pixel value for a predetermined position in said actual projected image and a
15 pixel value for a position adjacent to said predetermined position in said actual projected image, to determine that an error is occurring in said projection section when the calculated difference exceeds a predetermined threshold.

20 13. The monitor system for a projection apparatus according to any of claims 2 to 12, wherein said error detection section calculates a difference between a pixel value for a predetermined position in said actual projected image and a pixel value for a position separate from said predetermined
25 position in said actual projected image, to determine that an error is occurring in said projection section when the calculated difference exceeds a predetermined threshold.

14. The monitor system for a projection apparatus according to any of claims 2 to 13, wherein for each of a plurality of detected positions in said actual projected image, said error
5 detection section calculates a difference between a pixel value for the detected position in said actual projected image and a pixel value for a position adjacent to said detected position in said actual projected image, to determine that an error
is occurring in said projection section when the sum of
10 calculated differences exceeds a predetermined threshold.

15. The monitor system for a projection apparatus according to any of claims 12 to 14, wherein said pixel value is obtained by sampling the value for the pixel at the same position N
15 (N is an integer equal to or larger than 1) times from a reference time t at predetermined intervals Δt and adding the sampled pixel values together.

16. The monitor system for a projection apparatus according to any of claims 2 to 15, wherein the same timing signal is
20 inputted to said projection section and said image loading section, and a projection timing for said projection section is synchronized with a loading timing for said image loading section on the basis of said timing signal.

25

17. A projection apparatus comprising projection section for projecting an image, image loading section for loading the

actual projected image projected by said projection section,
error detection section for detecting errors in said projection
section on the basis of the actual projected image loaded into
said image loading section, and error notification section
5 for carrying out a predetermined notification when said error
detection section detects an error, and

wherein said error detection section detects errors in
said projection section on the basis of an original projected
image to be projected by said projection section and the actual
10 projected image loaded into said image loading section.

18. The projection apparatus according to claim 17, which
is connected to a monitor center so as to communicate with
the monitor center, and

15 wherein when said error detection section detects an error,
said error notification section carries out a predetermined
notification to notify said monitor center that the error is
detected.

20 19. A projection apparatus connected to a monitor center so
as to communicate with the monitor center, the apparatus
comprising projection section for projecting an image, image
loading section for loading the actual projected image
projected by said projection section, error detection section
25 for detecting errors in said projection section on the basis
of the actual projected image loaded into said image loading
section, and detection result providing section for providing

an error detection result obtained by said error detection section in response to an access from said monitor center, and

5 wherein said error detection section detects errors in said projection section on the basis of an original projected image to be projected by said projection section and an actual projected image loaded into said image loading section, and

said detection result providing section saves the error detection result obtained by said error detection section and
10 provides said saved error detection result to said monitor center when said monitor center accesses said projection apparatus.

20. The projection apparatus according to any of claims 17
15 to 19, wherein said image loading section is a one-dimensional line sensor.

21. The projection apparatus according to claim 20, wherein
20 said one-dimensional line sensor is adapted to load a horizontal line image from said actual projected image.

22. The projection apparatus according to any of claims 17
to 19, wherein said image loading section is a two-dimensional area sensor.

25 23. The projection apparatus according to any of claims 17 to 22, wherein said error detection section compares said

original projected image with said actual projected image to detect an error in said projection section on the basis of a match or difference between the original projected image and the actual projected image.

5

24. A monitor program for a projection apparatus, the program monitoring a projection apparatus having projection section for projecting an image, the program comprising:

allowing a computer to execute a process of loading an
10 actual projected image projected by said projection section and detecting an error in said projection section on the basis of the loaded actual projected image.

25. A monitor program for a projection apparatus, the program
15 being executed by a projection apparatus having projection section for projecting an image and comprising a computer, the program comprising:

allowing execution of a process implemented as image
loading section for loading the actual projected image
20 projected by said projection section, error detection section for detecting errors in said projection section on the basis of the actual projected image loaded into said image loading section, and error notification section for carrying out a predetermined notification when said error detection section
25 detects an error, and

wherein said error detection section detects errors in said projection section on the basis of an original projected

image to be projected by said projection section and the actual projected image loaded into said image loading section.

26. A monitor program for a projection apparatus, the program
5 being executed by a projection apparatus connected to a monitor center so as to communicate with the monitor center, having projection section for projecting an image, and comprising a computer, the program comprising:

allowing execution of a process implemented as image
10 loading section for loading the actual projected image projected by said projection section, error detection section for detecting errors in said projection section on the basis of the actual projected image loaded into said image loading section, and detection result providing section for providing
15 an error detection result obtained by said error detection section in response to an access from said monitor center, and

wherein said error detection section detects errors in said projection section on the basis of an original projected
20 image to be projected by said projection section and an actual projected image loaded into said image loading section, and

said detection result providing section saves the error detection result obtained by said error detection section and provides said saved error detection result to said monitor
25 center when said monitor center accesses said projection apparatus.

27. A monitor method for a projection apparatus, the method monitoring a projection apparatus having projection section for projecting an image, the method comprising:

5 loading an actual projected image projected by said projection section and detecting an error in said projection section on the basis of the loaded actual projected image.

28. A monitor method for a projection apparatus, the method monitoring a projection apparatus having projection section
10 for projecting an image, the method comprising:

an image loading step of loading the actual projected image projected by said projection section, an error detection step of detecting an error in said projection section on the basis of the actual projected image loaded in said image loading
15 step, and an error notification step of carrying out a predetermined notification when an error is detected in said error detection step, and

wherein said error detection step detects an error in said projection section on the basis of an original projected
20 image to be projected by said projection section and the actual projected image loaded in said image loading step.

29. A monitor method for a projection apparatus, the method monitoring a projection apparatus connected to a monitor center
25 so as to communicate with the monitor center and having projection section for projecting an image, the method comprising:

an image loading step of loading the actual projected image projected by said projection section, an error detection step of detecting an error in said projection section on the basis of the actual projected image loaded in said image loading
5 step, and a detection result providing step of providing an error detection result obtained in said error detection step in response to an access from said monitor center, and

wherein said error detection step detects an error in said projection section on the basis of an original projected
10 image to be projected by said projection section and an actual projected image loaded in said image loading step, and

said detection result providing step saves the error detection result obtained in said error detection step and provides said saved error detection result to said monitor
15 center when said monitor center accesses said projection apparatus.